Amendments to the Claims:

Please cancel claims 4-7, 31, 32, 34-35 and 49-51. Please amend claims 8, 12, 18, 27 and 36. This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Original) A method of operating a liquid feed fuel cell, comprising adding a quantity of perfluorooctanesulfonic acid to a fuel of the fuel cell.

2. (Original) The method of claim 1, wherein said perfluorooctanesulfonic acid is provided with a concentration of at least 0.0001 M.

3. (Original) The method of claim 2, wherein said perfluorooctanesulfonic acid is in the range of 0.0001 M to 0.01 Molar.

4.-7. (Cancelled)

8. (Currently Amended) ~~A fuel cell as in claim 4,~~ An aqueous organic fuel-feed fuel cell, comprising:

a first electrode having a first polarity and ~~wherein said first electrode has~~ a surface which is formed with ~~high surface area~~ particles having a surface area greater than 200 m^2/g, said particles formed of alloys including at least two different kinds of metals;

a second electrode having a second polarity different than the first polarity;

an electrolyte, comprising a proton-conducting membrane which is coupled to both said first and second electrodes; and

a circulating system, operating to circulate a first liquid organic fuel which is substantially free of acid-containing electrolytes into an area of said first electrode to cause a potential difference between said first and second electrodes when a second component is in an area of said second electrode;

wherein said first electrode is formed of a porous material configured in a way to be wet by the organic fuel.

9. (Original) A fuel cell as in claim 8, wherein one of said metals of said alloy is platinum.

10. (Original) A fuel cell as in claim 9, wherein said alloy is formed of platinum-ruthenium, with a composition varying from 5 to 90 atom % of platinum.

11. (Original) A fuel cell as in claim 10, wherein said alloy particles are unsupported.

12. (Currently Amended) A fuel cell as in claim 8 further comprising a ~~high surface area~~ carbon material for supporting said alloy particles.

13. (Original) An organic fuel cell, comprising:

a first chamber;

an anode electrode, formed in said first chamber, and including a first surface exposed to said first chamber, at least said first surface including an electrocatalyst and a wetting agent thereon;

an electrolyte, operatively associated with said anode electrode in a way to allow proton-containing materials to pass from said anode into said electrolyte, said electrolyte comprising a proton conducting membrane; and

a cathode electrode, operatively associated with said electrolyte, and having a second operative surface.

14. (Original) A fuel cell as in claim 13, wherein said second operative surface of said cathode electrode includes particles of electrocatalyst material thereon.

15. (Original) A fuel cell as in claim 14, wherein said electrocatalyst materials are materials optimized for electro-oxidation of a desired organic fuel.

16. (Original) A fuel cell as in claim 15, wherein said fuel is an aqueous methanol derivative which is free of acid component and said electrocatalyst is platinum-ruthenium.

17. (Original) A fuel cell as in claim 14, wherein said particles of electrocatalyst on said cathode are optimized for gas diffusion.

18. (Currently Amended) A fuel cell as in claim 17, wherein said particles include an electrocatalyst alloy mixed with a ~~Teflon~~ fluoropolymeric additive.

19. (Original) A fuel cell as in claim 17, wherein said particles include an electrocatalyst mixed with said wetting agent which is an additive to promote hydrophobicity.

20. (Original) A fuel cell as in claim 14, further comprising a pumping element operating to circulate said organic fuel past said anode electrode.

21. (Original) A fuel cell apparatus, comprising:

a first chamber having surfaces for containing an organic aqueous fuel therein;

an anode structure, having a first surface in contact with said first chamber, said anode structure being porous and capable of wetting the liquid fuel and also having electronic and ionic conductivity;

an electrolyte, in contact with said anode structure, said electrolyte formed of a proton-conducting membrane;

a cathode, in contact with said electrolyte in a way to receive protons which are produced by said anode structure, conducted through said electrolyte to said cathode; and

a second chamber, holding said cathode, said second chamber including a second material including a reducible component therein.

22. (Original) A fuel cell as in claim 21, wherein said anode is formed of carbon paper with an electrocatalyst thereon.

23. (Original) A fuel cell as in claim 21, wherein said anode includes a hydrophilic proton conducting additive.

24. (Original) A fuel cell as in claim 22, wherein said electrocatalyst layer and said carbon support are impregnated with a hydrophilic proton conducting polymer additive.

25. (Original) A fuel cell as in claim 23, wherein said polymer additive is formed of substantially the same material as the material of the electrolyte.

26. (Original) A fuel cell as in claim 21, wherein said anode is impregnated with an ionomeric additive.

27. (Currently Amended) A method of forming an anode with an ionomeric additive, comprising:

preparing an electrode structure having a ~~high~~ particles with a surface area greater than $200m^2/g$;

impregnating the ~~high surface area~~ electrode structure with an electrocatalyst and binding said electrocatalyst thereto;

immersing the electrocatalyst-impregnated particles on said electrode structure into a solution containing an ionomeric additive;

removing said electrode structure from said solution, and drying said electrode structure; and

repeating said impregnating, removing and drying step until a desired composition electrode structure is obtained.

28. (Original) A method as in claim 27, wherein said electrocatalyst is bound in a polytetraflouroethylene binder.

29. (Currently Amended) A method as in claim 27, wherein said ionomeric additive is a fluoropolymer ~~Nafion™ type~~ material.

30. (Original) A method as in claim 27, wherein said impregnating comprises mixing electrocatalyst particles with a binder and applying said binder/electrocatalyst onto a backing to form a thin layer of greater than substantially 200 meters squared per gram.

31. (cancelled)

32. (cancelled).

33. (Currently Amended) ~~A fuel cell as in claim 32,~~ An aqueous fuel cell, comprising:

a first electrode operating as an anode, said first electrode being effective to catalyze an oxidation reaction of a non-acidic component, and wherein said first electrode includes a hydrophilic proton conducting additive;

a second electrode, operating as a cathode to undergo a reduction reaction of a non-acidic component;

a circulating system, operating to circulate a first organic fuel in an area of said anode; and

an electrolyte, comprising a proton conducting membrane ionically coupled with both said first and second electrodes, to passions therebetween.

34. (cancelled)

35. (cancelled)

36. (Currently Amended) ~~A fuel cell as in claim 36~~, An organic fuel cell, comprising:

a first chamber;

an anode electrode, formed in said first chamber, to have a surface exposed to said first chamber, at least said surface including particles of a material thereon which catalyzes said anode to react with non-acid containing organic fuels, and wherein said anode includes a hydrophilic proton conducting additive;

an electrolyte operatively associated with said anode in a way to allow proton-containing materials to pass from said anode into said electrolyte, said electrolyte comprising a hydrogen ion conducting membrane; and

a cathode electrode, operatively associated with said membrane, to receive said ions from said membrane and to react with a specified material.

37. (Original) A method as in claim 7, wherein said methanol derivative is dimethoxymethane mixed with water to a concentration of about .1 to 2 M.

38. (Original) A method as in claim 7, wherein said methanol derivative includes dimethoxymethane, forming an electro chemical reaction of

$$(CH_3O)_2CH_2 + 4H_2O \rightarrow CO_2 + 16H^+ + 16e^-.$$

39. (Original) A method as in claim 7, wherein said methanol derivative is trimethoxymethane mixed with water to a concentration of about .1 to 2 M.

40. (Original) A method as in claim 7, wherein said methanol derivative includes trimethoxymethane, forming an electro chemical reaction of

$$(CH_3O)_3CH + 5H_2O \rightarrow 4CO_2 + 20H^+ + 20e^-.$$

41. (Original) A method as in claim 7, wherein said methanol derivative is trioxane mixed with water to a concentration of about .1 to 2 M.

42. (Original) A method as in claim 7, wherein said methanol derivative includes trioxane, forming an electro chemical reaction of

$$(CH_2O)_3 + 6H_2O \rightarrow 3CO_2 + 12H^+ + 12e^-.$$

43. (Original) A method as in claim 7, wherein said methanol derivative is dimethoxymethane mixed with water to a concentration of about .1 to 2 M.

44. (Original) A method as in claim 7, wherein said methanol derivative includes dimethoxymethane, forming an electro chemical reaction of

$$(CH_3O)_2CH_2 + 4H_2O \rightarrow CO_2 + 16H^+ + 16e^-.$$

45. (Original) A method as in claim 7, wherein said methanol derivative is trimethoxymethane mixed with water to a concentration of about .1 to 2 M.

46. (Original) A method as in claim 7, wherein said methanol derivative includes trimethoxymethane, forming an electro chemical reaction of

$$(CH_3O)_3CH + 5H_2O \rightarrow 4CO_2 + 20H^+ + 20e^-.$$

47. (Original) A method as in claim 7, wherein said methanol derivative is trioxane mixed with water to a concentration of about .1 to 2 M.

48. (Original) A method as in claim 7, wherein said methanol derivative includes trioxane, forming an electro chemical reaction of

$$(CH_2O)_3 + 6H_2O \rightarrow 3CO_2 + 12H^+ + 12e^-.$$

49. (cancelled)

50. (cancelled)

51. (cancelled)